

## **Religious Activities and Health Outcomes: The College Bound Sisters Program**

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Smith, L.W., Brown, H. N., Lewallen, L.P. & Penny, J. M. (2006). Religious activities and health outcomes: College Bound Sisters Program, *Issues in Mental Health Nursing*, 27(2), 199-212.

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### **Abstract:**

College Bound Sisters (CBS) is a program that helps younger sisters of teenage mothers change their life trajectory by accomplishing three objectives: avoidance of pregnancy, completion of high school, and enrollment in college. Data related to religious activities and accomplishment of the three objectives for 129 members were analyzed using chi square. CBS defines health as the accomplishment of the three program objectives using Norbeck's theoretical model of social support. The adolescents were divided into three groups: those who became pregnant, dropped out of school, or completed high school. The three groups were compared with regard to the frequency of participating in religious activities. The majority of the CBS adolescents reported participating in weekly religious activities. No significant difference was found among the three groups, with regard to religious activities. However, CBS program participants were more likely than nonparticipants to graduate high school and activities in teenage pregnancy prevention programs are discussed[discussed].

### **Article:**

The National Campaign to Prevent Teen Pregnancy (NCPTC, 2004) reported that adolescent pregnancy rates in the United States declined 28% between 1990–2000 and the rates continue to drop. Despite the decline, nearly 1 million adolescents become pregnant in the United States every year, at a cost of \$7 billion per year (NCPTC, 2002). In fact, the United States still has the highest adolescent pregnancy rate of all the developed countries in the world (NCPTC, 2002; Whitehead, Wilcox, & Rostosky, 2001). Thirty-five percent of young women become pregnant at least once before their 19th birthday; and for Black teens that percent increases to an astounding 57% (National Campaign Fact Sheet, 2004). In 2003, 17,390 adolescent pregnancies were reported by the North Carolina Department of Health and Human Services State Center for Health Statistics (APPCNC, 2003). The high numbers of adolescent pregnancies and the problems associated with adolescent pregnancy point to the need for effective pregnancy prevention programs.

Younger sisters of adolescent mothers are three to six times more likely than other teens to become pregnant (East & Felice, 1992; NCPTC, 2004). Data suggest they are more likely to experiment with sexual behaviors at an early age, and to give birth out of wedlock (NCPTC, 2002). Trends show that children of teen mothers are more likely to have low birth weights, be born premature, and are (50%) more likely to repeat a grade in school (NCPTC, 2002). Once a teenager has a child, she is less likely to complete high school (NCPTC, 2004); and two-thirds of

families begun by young unmarried mothers are poor (Whitehead et al., 2001). The social, environmental, biological, and financial circumstances of teen mothers have negative ramifications for the health of the mother, her child, and the society in which she lives.

There has been a surge in governmental funding to support faith-based initiatives to help reduce adolescent pregnancy (Miller & Gur, 2002; NCPTP, 2002; Whitehead et al., 2001); and some literature suggests that adolescent females who participate in religious activities initiate sexual behaviors later, at a lower rate, and have reduced pregnancy rates (Miller & Gur, 2002; Strawbridge, Shema, Cohen, & Kaplan, 2001; Thorton & Camburn, 1989). However, studies examining the relationship between religion and health behaviors have produced equivocal findings on the relevance of the type of church attended. Research in the 1980s and 1990s suggested that the more rigid the church's views on the prohibition of premarital sex, the more likely church members were to limit premarital sex (Levin, 1994; Thorton & Camburn, 1989). In contrast, recent studies such as Miller and Gur (2002) and Whitehead et al. (2001) argued that rigid adherence to a strict religious creed that forbids premarital sex may not help adolescents develop healthy strategies concerning sexuality. For example, female adolescents who attend a church that forbids premarital sex may delay sexual initiation, but when they do have sex they become submissive and do not insist on using birth control. Adolescent girls may develop an "all or nothing" set of beliefs and may locate sexual authority in their sexual partners (Miller & Gur, 2002).

Perhaps more important than the type of religious doctrine taught in churches, is the amount of religious involvement and its relationship to adolescent health behaviors. Thorton and Camburn (1989) noted that "religious participation is more important in determining sexual attitudes and behavior than is religious affiliation" (p. 651). Miller and Gur (2002) found that "frequent attendance at religious events was positively associated with greater perception of risk of contracting HIV and a responsibility for planned use of birth control" (p. 401). Therefore, the purpose of this descriptive analysis was to examine rates of pregnancy and high school completion in relation to the amount of religious activities of adolescent females, both participants and nonparticipants, in a pregnancy prevention program called College Bound Sisters.

## METHOD

### *Description of the College Bound Sisters Program*

Two doctorally prepared maternity nurses started the College Bound Sisters (CBS) program in 1997 to address the need for primary pregnancy prevention in adolescent girls who had a sister who was an adolescent mother. The professors had observed the prevalence of adolescents having babies in their clinical practice and during the prior five years they had worked with adolescent mothers to prevent subsequent pregnancies in a program called Dollar-A Day (Brown, Saunders, & Dick, 1999; Saunders & Brown, 1997). There, they also witnessed the younger sisters of these teen mothers becoming pregnant at an alarmingly high rate. In order to help these younger sisters avoid pregnancy, the professors developed the CBS program. The CBS program works to help younger sisters of teenage mothers change their life trajectory by accomplishing three objectives: avoid pregnancy, complete high school, and enroll in college. A statistician assisted in the development of the questionnaire/interview to collect data for program evaluation, developed the data base, and has conducted annual evaluations of the program.

### *Theoretical Model*

The CBS program is based on a conceptual framework derived from Norbeck's (1988) theoretical model of social support. This model proposes that if an adolescent's stress can be mediated or alleviated through social support, the adolescent will have better health outcomes. The CBS participants have stress related to being an adolescent, living in a home with a sister who was an adolescent mother, and almost all are minorities of low socioeconomic background.

Using Norbeck's (1988) model, the CBS leaders provide social support during weekly meetings and via telephone contact and written materials. As a result of group interaction, friendships develop that lead to social support in the form of transportation, psychological support during a personal crisis, and mutual support for everyday challenges. The program manager works individually with the participants during crises to ensure the participant obtains housing, health care, dental care, and medications, and to address personal issues that arise. The program leaders influence social support indirectly by working with the families during home visits and with the parents during quarterly parents' meetings. The authors posit if social support can reduce or mediate the effects of stress in the environment of these adolescents, health outcomes are more likely to be positive. In the CBS program, health outcomes are defined as three program goals: avoidance of pregnancy, high school graduation, and college enrollment.

The participants make long-term commitments to the program and agree to attend weekly meetings from the time they join the program until they enroll in college. This long-term commitment cultivates an environment where lasting, caring, and supportive relationships develop between the participants and the program staff. As a result of their commitment to the program, the participants make the dream of attending college a reality; few of the program participants come from homes where college attendance was the norm. The program leaders become mentors for these adolescents and the program participants become role models for each other. The program manager's involvement extends to making home and school visits as needed. The program is constructed to lower the stresses experienced during adolescence by engaging the participants in activities that focus on college enrollment and retention. The non-participant group members attend no CBS meetings.

### *Questionnaire/Interview*

A 12-page questionnaire/interview tool was developed by the CBS leaders to gather data from both participants and non-participants for the purposes of program evaluation. Participant and non-participant group members completed a series of interviews using identical questionnaires at baseline, 6 months, and 12 months, and annually thereafter.

Data from these interviews were entered into a data base for ongoing CBS program evaluation. The questionnaire contained demographic and personal data. Tracking data were used for storing contact information of two people, other than immediate family, who would know how to contact program participants. The questionnaire elicited information specifically targeting: (1) sexual behaviors: have they ever had sex, how old they were when they first had sex, if they had sex within the last month and what type of contraceptives they used; (2) religious activities: church attendance, type of church, frequency of attendance of church activities or activities at the

church, and type of activities in which they participate; and (3) information about the main goals of the program: avoidance of pregnancy, completion of high school, and enrollment in college. In addition to demographic and personal data, the questionnaire/ interview contained two scales: one to assess self-esteem and the other to assess perception of social support. The Self-Esteem Scale developed by Heatherton and Polivy (1991) provided a standardized measure of self-esteem. The Family/Friend APGAR, two separate scales, (Good, Smilkstein, Good, Shaffer, & Arons, 1979) were used to measure perceived social support from family and friends. These two scales were used because they addressed concepts central to the program, (self-esteem and social support), and have reported acceptable validity and reliability. A panel of four experts in adolescent pregnancy prevention worked on the questionnaire to ensure content validity.

### *Group Size*

There were 24 participants and 40 non-participant group members. These numbers were used because previous consultation suggested that 12 is the maximum group size for optimal learning and two groups of 12 were planned for implementing the program. The goal of having 40 members in the non-participant group served to ensure that adequate numbers were always available for evaluating whether the participants accomplished the goals of the program.

### *Consent*

The consent form was signed by the program manager, a parent of the participant, and the CBS participant or non-participant. The consent forms allowed the program manager to share confidential information about participants' academic performance with school and other professionals and to photograph program participants for marketing purposes. The consent form also carefully described how the program participant would earn money for college, if the programmatic goals were met. However, if the participant dropped out of school or became pregnant, the membership in CBS program and the college fund incentive was forfeited.

### *Funding and IRB Approval*

An original five-year grant was obtained from the North Carolina Department of Health and Natural Resources (now the Department of Health and Human Services [DHHS]). Additionally, the college fund has been financially supported by a grant from the March of Dimes. The University of North Carolina—Greensboro (UNCG) School of Nursing allows the program manager to have an office and to conduct the weekly meetings within the school. Grants from a variety of local agencies maintained the program, and currently CBS is operating until June 30, 2007 with a four-year grant from DHHS. Once the components of the CBS program were in place, IRB approval was attained through the research office at UNCG to collect data from the program participants. Next, a program manager experienced in working with at-risk adolescents in an educational setting was employed for program recruitment.

### *Recruitment*

Recruitment was slow at first because it proved fairly difficult to identify younger sisters of teenage mothers who met all of the eligibility requirements (between the ages of 12 and 16, never been pregnant, enrolled in school, and with a desire to attend college) to enter the program. Adolescents were referred to the CBS program by nurses at two county health departments, staff members at middle and high schools, and other youth groups in the county. Recruitment advertisements were posted in the local newspaper and aired on the radio to inform potential

participants about the CBS program. Interested individuals contacted the program manager who then arranged an initial home meeting to describe the program. During this initial meeting, the program manager explained the program in detail, obtained consent from a parent or legal guardian and the adolescent. The adolescent and parent or guardian decided whether the adolescent should become a member of the participant or non-participant group. Often the adolescent decided to be in the non-participant group because of transportation difficulty to and from weekly meetings, or responsibilities after school that would prevent her from being able to attend weekly meetings. Both participant and non-participant groups must meet the same criteria for admission into the program and baseline data on both groups on admission to the program were compared on all members during the first five years of the program. The two groups were compared on a variety of demographic variables and on all outcome measures at the initial interview. Statistical analysis (chi-square for categorical variables and t-tests for continuous variables) were conducted on 21 variables to assess for initial differences in the groups. The two groups were equivalent at baseline.

### *Weekly Meetings*

The core of the CBS program are the 90-minute weekly meetings attended by the participants from the time they enroll in the program until the completion of the program goals or until they drop out of the program. The meetings are held on the college campus of UNCG to help the participants become comfortable and familiar with college life. The weekly meetings are a venue for adolescents with similar academic interests to engage in meaningful dialogue. The meeting topics are tailored to fit the specific needs of the group and focus on a variety of educational topics such as goal setting, communication, responsible behaviors, sexuality, relationships, college life, diversity, racism, and community service. Each of these topics has been developed into a four-ten week curriculum.

In addition to the weekly 90-minute meetings, there are various other activities each year that are part of the CBS experience. Those include touring at least three college/university campuses each year, service projects, and cultural events.

The participants attend school in an “abstinence only” school district. They learn about the mechanics, spiritual, mental, and physical realities of sexual behaviors from the CBS program. The CBS leaders do not attempt to influence the adolescents’ participation in religious activities in any way. Occasionally, the program participants bring up the topic of religion during informal discussions, but it is never planned as a topic for a meeting.

### *Incentives*

Two incentives served to encourage the program participants to maintain attendance at the weekly meetings. An immediate or short-term incentive is that participants receive \$5.00 each time they attended a meeting; this is referred to as transportation money as participants are responsible for their transportation to and from meetings. The other incentive is \$7.00 that is placed into a college fund each time a participant attends a meeting. A bulletin board noting the college fund amount accumulated for each member is visible to the program participants in the program managers’ office at all times. As their dollar amount increases they tend to become

more motivated to stay in the program, avoid pregnancy, graduate from high school, and enroll in college.

### *Analysis of Religious Activity*

The variable, religious activity, was examined to determine whether participating in religious activities was associated with different health outcomes. Since the CBS program did not attempt to alter the participants' involvement in religious activities, data from participant and non-participant groups related to health outcomes and involvement in religious activities were combined and analyzed. (Participants and nonparticipants will be referred to as adolescents for the rest of the methods and results sections of this paper.)

The adolescents were divided into groups according to three health outcome indicators: those who met the program goals of graduating from high school without becoming pregnant, those who became pregnant, and those who dropped out of high school. The groups were compared on the variable of church attendance, which was defined as "no church attendance," "infrequent" (once to several times a year), "often" (several times a month to once a week), and "very often" (several times a week). The four church attendance groups were collapsed into two groups (none or infrequent attendance; attendance often or very often) to facilitate the chi-square analysis. The data were examined to determine if there was a relationship between the amount of religious activity and high school completion, school drop-out, or pregnancy rates. The chi-square statistic was chosen to compare the groups. SPSS version 11.5 was used in the analysis and the  $p$  value was set at .05.

## RESULTS

### *Analysis of Religious Activity*

To date, 129 initial interviews, 98 6-month and 72 12-month interviews have been completed by participant and non-participant group members (adolescents). The data from 129 high-risk female adolescents showed that 59% of them reported attending religious activities once a week or more. Forty-one percent reported infrequently or never attending church activities. As stated above, adolescents were divided into three groups: those who completed high school and enrolled in college, those who became pregnant, and those who dropped out of high school. No significant difference was found among the three groups on the variable of church attendance ( $X^2$  4.10;  $df = 1$ ,  $p = .13$ ) respectively.

Associations between negative health outcomes such as pregnancy and school drop-out were analyzed with regard to the frequency of participation in religious activities. Sixteen (12.4%) of the adolescents became pregnant. At the time the girls became pregnant, six (38%) of them reported participating in religious activities infrequently or not at all. Ten (62%) of the adolescents reported they participated in religious activities often or very often. Of these ten girls, six reported they increased their religious activities at the time of their pregnancy.

High school drop-out also was investigated in relation to participation in religious activities. A total of sixteen (12.4%) adolescents dropped out of high school. Five (31%) of the 16 reported participating in religious activities often or very often, while 11 (69%) reported never or infrequently attending religious activities.



High school graduation, one of the goals of the CBS program, was accomplished by 25 adolescents. Collectively, fifteen (60%) high school graduates reported attending church activities often or very often. Ten (40%) high school graduates reported infrequent or no involvement in religious activities.

### *Limitations*

There are several limitations to this descriptive analysis of the CBS program. The low number of adolescents is one factor that limits the generalizability of the findings. Since all the adolescents were younger sisters of teen mothers, most of whom were African American and from lower socioeconomic status households, the findings can only be generalized to other high risk groups of teens with similar life circumstances.

Another limitation is that the adolescents self-selected into the participant and non-participant groups. Those who chose to be in the nonparticipant group most often voiced difficulty with transportation to and from weekly meetings or conflicting work/school related activities. Participant groups meet one day a week from 4:30–6:00 p.m. It is important to note, that girls in the non-participant group were more likely to have a mother who was pregnant as an adolescent than were members of the participant group. However, as previously documented, the two groups were equivalent at baseline. Girls who are both daughters and sisters of teen mothers may be at greater risk for adolescent pregnancy than those girls who are only sisters of teen mothers.

### *Outcome Data from the College Bound Sister Program*

The main goals of the College Bound Sisters Program are to help younger sisters of adolescent mothers avoid pregnancy, complete high school, and enroll in college. The success of the program was measured in part by comparing the outcome data of the participant and non-participant groups. All of the adolescents (participants and nonparticipants) are at high risk for pregnancy and dropping out of school; 83% of the participants are African American and the majority are from lower socioeconomic status households (Penny, 2003). As of 2003, the outcome data illustrates that the CBS program is successful at helping the participants achieve the program goals.

Negative health outcomes were more frequent in the non-participant group than in the participant group. Sixteen adolescents became pregnant. Ten of the girls who became pregnant were members of the nonparticipant group and six were members of the participant group. Sixteen adolescents dropped out of high school. Thirteen of the high school drop-outs were non-participant group members and three were participant group members. The National Campaign to Prevent Teen Pregnancy (2002) stated that, “Teen pregnancy and too-early parenthood often short circuit the education process and prevent young men and women from preparing themselves for good jobs and becoming established in the labor market” (p. 8). The CBS program participants were less likely to have negative health outcomes, such as pregnancy and dropping out of high school. And they were more likely to achieve positive health outcomes such as high school graduation and college enrollment.

The total number of adolescents graduating from high school was 25. Ten high school graduates were non-participant group members and 15 were CBS program participants. Only five of the ten

non-participant group members who graduated from high school enrolled in college, while 13 of the 15 program participants who graduated from high school enrolled in college. Although all the program participants were at risk for becoming pregnant or dropping out of high school, less than half actually became pregnant. The majority of the participants and non-participants, 76 out of 129 (59%), reported attending religious activities at least weekly.

Participant graduates of the CBS program have successfully enrolled in colleges such as North Carolina A&T State University, The University of North Carolina at Greensboro, The University of North Carolina at Chapel Hill, Winston Salem State University, Xavier University in Louisiana, and community colleges. Program graduates earned college funds ranging from \$892 to \$3,318 through participating in CBS. Several of the graduates received other forms of financial assistance or scholarships that were instrumental in their attendance at 4-year colleges and universities.

## DISCUSSION

Could the program's success be attributed in part to the fact that the majority of the participants attended religious activities weekly? Our analysis cannot say unequivocally that participation in religious activities and positive health outcomes is causal, but there could be an association between them. It is interesting to note, that during the weekly CBS participant discussion groups, of the few times religion was brought up by the participants, it was during the discussion of a moral issue such as abortion. The participants were presented with a hypothetical situation of being pregnant, and they had to discuss all the possible options for pregnancy outcomes. When the participants were encouraged to think about this situation, many of them turned to their religious upbringing and voiced strong opinions against abortion and giving the infant up for adoption. The group leader did not try to persuade the participants to feel a certain way about abortion, but instead, encouraged the participants to dialogue about how they felt and their beliefs.

### *Implications*

Future programs such as College Bound Sisters might serve at-risk adolescents more holistically by intentionally dealing with the topics of religion and spirituality as planned units of study. Perhaps discussing these issues would help the participants learn more about themselves, their families, and their cultures. The CBS program could help adolescents examine their roles in religious institutions and help make sure that the institutions are fostering independent, free-thinking young women who can make informed, responsible life decisions.

If teen pregnancy is thought of as a crisis, it makes sense that some newly pregnant teens would seek out social support from a church community, and increase their attendance in religious activities. Genova (2002) stated, "Illness ... frequently leads people to religion" (p. 1619). However, the authors posit there is the possibility that adolescents might decrease or stop their church activities after becoming pregnant because of perceived or actual negative attitudes of others in the church toward them. The examination of our data suggests adolescents seek out religious communities when they become pregnant, because the majority of pregnant adolescents in the CBS program increased their involvement in religious activities at the time of their pregnancies. Their religious communities may provide a positive, enriching environment that supports these teens.



The more time at-risk adolescents spend in positive enriching environments the more likely they are to have better health outcomes (Miller & Gur, 2002; Strawbridge, Shema, Cohen & Kaplan, 2001; Thorton & Camburn, 1989; Wallace & Forman, 1998). The College Bound Sisters program strives to serve its program participants holistically; CBS delves into several realms of adolescents' lives: friends, family, school, sexual relations, work, extracurricular activities, decision-making, goal setting, and so forth. The program leaders listen to the members to determine their needs and attempt to provide an environment that can help them explore ways to get their needs met. The program participants participated about the same amount of time each week in religious activities as they did the CBS meetings. It is possible that the CBS leaders could have better served these adolescents by asking the participants if the messages they received from church were congruent with those of the CBS program. Sexuality, religion, and spirituality are important components of adolescents' development.

The CBS program works to fill in gaps left by the local public school system and parents. The CBS program participants attend school in an abstinence-only public school district. The public schools also do not teach classes on religion or spirituality. Just as the CBS program encourages adolescents to discuss sexuality thoroughly, the CBS program could encourage adolescents to discuss their religion and spirituality. In this way, the CBS program could provide more holistic care for the adolescents it serves.

## CONCLUSION

What is it that creates the "protective force field" that helps teens avoid pregnancy? Is it the amount of religious involvement (not substantiated by our analysis), type of religious involvement (Sunday church goers vs. choir members, etc.), type of religious institution (Jehovah's Witness, Catholic, or Southern Baptist, etc.), or is it something deeper, on a more spiritual level that the CBS program didn't measure? Adolescents hold the answer to these questions. Through mutual engagement, we can begin to understand whether religious activities are effective for reducing the epidemic of teenage pregnancy.

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